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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,235	02/27/2004	Hiroshi Nishikawa	325772034600	4822
7590 Barry E. Bretschneider Morrison & Foerster LLP Suite 300 1650 Tysons Boulevard McLean, VA 22102				
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EXAMINER				
ZHU, RICHARD Z				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/787,235

Applicant(s)

NISHIKAWA ET AL.

Examiner

RICHARD Z. ZHU

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Acknowledgement

1. Acknowledgement is made of applicant's amendment made on 04/28/2010. Applicant's submission filed has been entered and made of record.

Status of the Claims

2. Claims 1 and 4-11 are pending.

Response to Applicant's Arguments

3. After careful consideration of applicant's arguments, previous grounds of rejections are withdrawn. However, in light of a new teaching, new grounds of rejections are entered.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 11 are rejected under 35 USC 103(a) as being unpatentable over *Shimada (US 4908718 A)* in view of *Yamanaka (US 7196827 B2)*.

Regarding Claims 1 and 11, *Shimada* discloses an image reading apparatus and a spacer for use in said image reading apparatus, comprising:

a reading transparent member (Fig 2, **thin plate glass 232** and see Col 5, Rows 4-5);

a reading unit that reads through said reading transparent member an image on an original document that is being conveyed over an original document reading position of said reading transparent member (Figs 2-3 and see Col 3, Rows 57-62 and Col 5, Rows 52-56 **photo sensor section 208 reads original P**); and

a spacer that is mounted on said reading transparent member on a surface thereof opposite the side thereof at which said reading unit is disposed (Fig 2B, **light shielding member 234**) and at a position upstream from the original document reading position relative to an original document conveyance direction (Fig 3, **rotation of the roller indicates that original P is being conveyed downstream from the light shielding member 234 toward a position where light L incidents upon original P; relatively, light shielding member 234 is located at a position upstream from the position where light L incidents upon original P to execute image reading**),

wherein the spacer is configured such that height of a downstream end thereof relative to the original document conveyance direction decreases in a sloping manner toward the downstream direction (Fig 3, **downward sloping light shielding member 234**),

the spacer is configured to cause a first portion of the original document to be out of contact with the reading transparent member at a location over the original document reading position (Fig 3, **a gap between glass plate 232 and original P at a reading position that abuts light shielding member 234 clearly indicates a location over the reading position where original P is out of contact with glass plate 232**) and a second portion of the original

document to come in contact with the reading transparent member at a location downstream from the original document reading position relative to the original document conveyance direction as the first portion of the original document is conveyed over the original document reading position (**Fig 3, original P is in contact with glass plate 232 in locations other than the location where reading position abuts light shielding member 234. It is noted that reading position encompasses the whole range of glass plate 232 that corresponds to components of sensor section 208**) and a trailing edge portion of the original document passes a position very close to or in contact with a sloping surface of the spacer (**Fig 3, the upper most upstream portion of original P is very close to but out of contact with light shielding member 234 while other portions of original P is in contact with light shielding member 234**).

Shimada does not suggest that a distance between the reading transparent member and the first portion of the original document is less than 0.3 mm at the location over the original document reading position.

However, as noted in the office action dated 12/02/2009, *Yamanaka* suggests that a distance between the reading transparent member and an original document is less than 0.3mm at the location over the original document reading position (**Col 7, Rows 1-10, the structure of the scanner is such that a gap of 0.15 to 0.5mm, with a preferred setting at 0.3mm, is allowed for the passage of a paper original over the glass platen. In particular, 0.15 to 0.29mm resides within the range as required by the claimed limitation**).

Given the need to design a passage with sufficient dimension to allow unimpeded passage of an original for proper reading, one of ordinary skill in the art at the time of the invention would've adopt the dimensional suggestion of *Yamanaka* to have a gap with a dimension of 0.15mm to 0.3 mm. As a result, the distance between the plate glass and the portion of original document that is out of contact with the plate glass is preferably between 0.15mm to 0.3mm.

6. Claims 4-10 are rejected under 35 USC 103(a) as being unpatentable over *Shimada (US 4908718 A)* and *Yamanaka (US 7196827 B2)* in view of *Kitani et al (US 5352883 A)*.

Regarding Claim 4, the combination of *Shimada* and *Yamanaka* disclose the image reading apparatus as noted in the rejection of Claim 1.

However, the combination does not suggest said spacer comprises a lower surface member that comes into contact with said reading transparent member and an upper surface member that comes into contact with the original document during conveyance of the original document wherein such members are glued together to form a step configuration where the height of the steps decrease toward a downstream direction, and said upper surface member is made of a material having both a lower friction coefficient and superior wear-resistance than a material of said lower surface member.

Kitani discloses a spacer in an image processing apparatus comprising a lower surface member that comes into contact with a reading transparent member (**Fig 12, Guide Means 7 contacting light transmissive sensor substrate 1, Col 7, Rows 21-28**) and an upper surface member that comes into contact with the original document during conveyance

of the original document (**Fig 12, low frictional layer 119**) wherein such members are glued together to form a step configuration where the height of the steps decrease toward a downstream direction (**Fig 12, there is a leap between the decrease toward downstream direction of surface 119 and protection layer 2 on top of substrate 1, therefore it is a step configuration**), and said upper surface member is made of a material having both a lower friction coefficient and a superior wear resistance than a material of said lower surface member (**Col 12, Rows 61-68**).

Given the fact *Shimada* merely suggest the light shielding member be made of organic resin (**Col 6, Rows 12-22**) to deflect light without limiting what can be place on top of it, one of ordinary skill in the art would've recognize the advantages of a structural alternative guiding means 7 with a low friction layer 119 forming on top of it as taught by *Kitani*, it would've been eminently desired by one of ordinary skill in the art at the time of the invention to modify the light shielding member of *Shimada* to have a lower surface member and a low friction upper surface member in order to "stably conveying an original sheet by reducing the friction acting between the original sheet P and guide means" (*Kitani*, **Col 12, Rows 60-64**).

Regarding Claim 5, the combination did not specify the thickness of its jump stand.

However, *Kitani* specified that at least the lower surface member or guide means be at least 0.3mm or less (**Col 14, Rows 48-51**).

Although the reference does not suggest that the upper surface member being .4 mm, however MPEP 2144.05 states that "where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine

experimentation". See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) and *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969).

Therefore it would've been well within the skill of one of ordinary skill in the art at the time of the invention to discover the optimal thickness of upper surface member through routine experimentation to obtain, for example, the dimensional of 0.4mm in thickness for the upper surface member.

Regarding Claim 6, *Yamanaka* does not disclose the protrusion of lower surface member relative to that of a upper surface member.

Kitani discloses in an alternative embodiment that a downstream end of a lower surface member relative to the original document conveyance direction protrudes from beyond that of said upper surface member in the downstream direction (**Fig 14, protrusion of guide means 7 relative to support member 148. Although the reference did not specifically explain the composition of member 148, however, given a specified need to convey paper across a low friction layer, it is reasonable to use the same low friction material of layer 119 to make member 148).**

It would've been obvious to one of ordinary skill in the art at the time of the invention to modify the jump stand of *Yamanaka* in the manner of *Kitani* described above because such configuration would effectively prevent paper jamming from occurring (**Col 14, Rows 7-18).**

Although the references did not dictate the specific dimensions such as thickness of upper surface member or protrusion of lower surface member beyond the upper surface member by 1mm, however, it is well within the skill of one of ordinary skill in the art at the

time of the invention to discover the optimal thickness of upper surface member through routine experimentation to obtain, for example, the dimensional of 0.4mm in thickness for the upper surface member or a protrusion of 1mm for the following reasons:

In order for the requirement of dimensional limitation such as thickness of upper surface member as well as limitations in the subsequent claims to be patentable over the prior art, the prior arts must not recognize these dimensional limitations as result effective variables; that is, there is neither suggestion or teaching within the applied prior arts to suggest that these variables should be optimized and therefore one of ordinary skill in the art would not be motivated to perform routine experimentation involving said limitations, see *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977)¹. This is not the case in the instant application because at least *Kitani* recognizes the thickness of at least guide means 7 to be a variable relevant to the performance of the apparatus (Col 14, Rows 48-51). Therefore, one of ordinary skill in the art at the time of the invention would be motivated to perform routine experimentation to find the most optimal thickness for both the guide means 7 and low frictional layer 119 because the frictional layer is an integral part of the spacer comprising the two components in at least one disclosed embodiment (Fig 13). Therefore, in the instant case, the dimensional limitation required by the applicant does not distinguish over the prior

¹ See Page 8, "The controlling question is simply whether the differences (namely the value of 0.12 and its property) between the prior art and appellant's invention as a whole are such that appellant's invention as a whole would have been obvious. The answer is no. It is impossible to recognize, from the experiment taught by El-Naggar, that "treatment capacity" is a function of "tank volume" or the tank volume-to-contactor area ratio. Recognition of this functionality is essential to the obviousness of conducting experiments to determine the value of the "tank volume" ratio which will maximize treatment capacity. Such functionality can *only be determined* from data representing either efficiency at varying tank volume, fixed throughput, and fixed contactor area or throughput at varying tank volume, fixed efficiency, and fixed contactor area. Each of these experiments represents treatment capacity with fixed contactor area but varying tank volume. This sort of experiment would not be suggested by the teachings of El-Naggar since he was not trying to maximize or control "treatment capacity." The experiments suggested by El-

art because it does not offer any advantage or unexpected result that would not have been recognized by one of ordinary skill in the art through routine experimentation, see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984)².

Regarding Claim 7, *Yamanaka* discloses wherein said reading position is placed at a predetermined position from the downstream end of said lower surface member toward the downstream direction (Fig 5 in view of Col 7, Rows 39-41, although the disclosure specifies using roller 24a as point of reference in determining a predetermined amount of distance, however, similar to Jump Stand 162, roller 24a is a fixed point of reference at a fixed amount of distance from Jump Stand 162. Relatively speaking, the fixed point of reference can be used to determine the distance between the read position 160 and Jump Stand 162 by adding a constant representing the distance between the roller and the jump stand because the two components abut each other).

Although the reference does not disclose that said reading position is placed at 3mm from the downstream, it would've been well within the skill of one of ordinary skill in the art to determine the optimal position through routine experimentation because *Yamanaka* clearly recognized the necessity to derive the optimal predetermined amount through experimentation in order to prevent blurred and fogged image (Col 7, Rows 49-55).

Naggar do not reveal the property which applicant has discovered, and the PTO has provided us with no other basis for the obviousness of the necessary experiments".

² See Page 784, "Having considered carefully all of the trial testimony and the numerous demonstrations and exhibits, the Court previously concluded that these requirements were empty formulae that had no relationship to any of the principles of fluid mechanics or phenomena thereof which were demonstrated in the trial. To this Court, they were incantations that may have superficially made the application sound like something unique and inventive but had no real function. So far as this poor observer could conclude, adherence to these dimensional mandates did not produce any discernible result or any synergistic [sic] effect. Nor did departure therefrom cause a failure of the

Regarding Claim 8, *Yamanaka* discloses wherein there is an interval between said reading transparent member and an original document conveyance path at said original document reading position that is 0.2mm (Col 7, Rows 1-10, **0.2 is inclusive within the range of 0.15 to 0.5mm**).

Regarding Claims 9-10, *Kitani* disclose the upper surface member is formed by a film made of high polymer polyethylene (Col 12, Rows 65-68) or fluorine resin (Col 12, Rows 65-68, **Teflon is generally known in the industry as a form of polytetrafluoroethylene or a form of fluorine resin**) and the lower surface member is formed by a film made of polyester (Col 7, Rows 21-27).

Given the fact that guiding means 7 and layer 119 of *Kitani* serves an functionally advantageous purpose in terms of paper conveyance, it would've been eminently desired by one of ordinary skill in the art at the time of the invention to modify the light shielding member of *Shimada* to have a lower surface member made of polyester and a lower friction upper surface member made of Teflon or polyethylene in order to "stably conveying an original sheet by reducing the friction acting between the original sheet P and guide means" (*Kitani*, Col 12, Rows 60-64).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Richard Z. Zhu whose telephone number is 571-270-1587 or examiner's supervisor King Y. Poon whose telephone number is 571-272-7440. Examiner Richard Zhu can normally be reached on Monday through Thursday, 0630 - 1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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